

ABSTRACT OF THE DISCLOSURE

A driving apparatus includes a rotatable rotor with a ring shape, a first magnetic pole portion, a second magnetic pole portion, and a coil for magnetically exciting the first magnetic pole portion and the second magnetic pole portion. The rotor has magnet portions which are divided along a circumferential direction and differently magnetized.

The first magnetic pole portion is formed extending in a direction perpendicular to the rotational axis of the rotor, and faces a face of the magnet portion perpendicular to the rotational axis. The second magnetic pole portion sandwiches the magnet portion between the second magnetic pole portion and the first magnetic pole portion, and faces another face of the magnet portion perpendicular to the rotational axis. The coil is disposed radially of the rotor.

The condition of  $-0.333X+0.7>Y$  is satisfied where Y is a ratio of a central angle of each first magnetic pole portion relative to a central angle of each magnetized pole in the magnet portion, and X is a ratio of an outer circumferential length of each magnetized pole in the magnet portion relative to a thickness of the magnet portion in a direction of the rotational axis.